Illinois Department of Transportation

Memorandum

To: File

From: Mark Nardini

Subject: PESA Validation

Date: March 10, 2003

FAP Route 301 (US 20)
Section 43-1, -2, -3, -4, -5 & 177-1
JoDaviess & Stephenson Counties
Job No. P-92-004-92
US 20: IL 84 North of Galena to Bolton Road West of Freeport

A data base check was conducted on March 5, 2003 of the USEPA CERCLIS Hazardous Waste Sites and the IEPA LUST sites to re-evaluate the PESA known as ISGS #414. The CERCLIS data base was updated on February 12, 2003. No new data base changes were found.

Alternative 2 will not involve nor impact any CERCLIS sites. A petroleum site with a regulated substance will be involved but since the project will not involve the excavation of contaminated soil, there is no impact.

Env/cr-0196/sb

PESA Response/Work Order

Attention: Central Office BD&E
Environment Section
Special Waste Unit
Room 330

Submittal Date: 02/28/1992 Sequence No: 60

District: 2 Requesting Agency: DOH Project No:

Contract #: Job No.: P- 92-004-92

Counties: JoDaviess, Stephenson

Route: FAP 301 Marked: U.S. 20

Street: Section: 43-1,-2,-3,-4,-5 & 177-1

Municipality(ies): Rural Project Length: 72.420 km 45 miles

FromTo (At): IL 84 North of Galena to Bolton Road West of Freeport

Quadrangle: Township-Range-Section:

Anticipated Design Approval: 03/01/1997 Anticipated Letting Date:

PESA Response PESA Number: 414 Submittal Date: 03/10/2003

Action Taken by District:

- ☐ District will not need ROW from the contaminated property
- ☐ Avoid Site
- ☑ Excavation will not exceed recommended depths 03/10/2003
- ☐ Further Investigation
- ☐ Other - Use Comments Section

Comments: This PESA response is for the preferred alignment 2. A data base check was conducted on March 5, 2003 of the USEPA CERCLIS Hazardous Waste Sites and the IEPA LUST sites to re-evaluate the PESA. The CERCLIS data base was updated on February 12, 2003. No new data base changes were found.

Contact Person: Mark Nardini Telephone: (815) 284-5460 ext.

Work Order Submittal Date:

Project Description:

Survey Type: ☐ Potential Waste Site(s) ☐ UST-LUST ☐ Miscellaneous and Testing

Reason Why Site(s) Cannot Be Avoided:

Property to be surveyed is owned by IDOT:

Property Owner/Tenants has been notified of future survey by certified letter:

Submittal Date: 02/28/1992 Sequence No: 60

District: 2 Requesting Agency: DOH Project No:

Contract #: Job No.: P- 92-004-92

Counties: JoDaviess, Stephenson

Route: FAP 301 Marked: U.S. 20

Street: Section: 43-1,-2,-3,-4,-5 & 177-1

Municipality(ies): Rural Project Length: 72.420 km 45 miles

FromTo (At): IL 84 North of Galena to Bolton Road West of Freeport

Quadrangle: Township-Range-Section:

Anticipated Design Approval: 03/01/1997 Anticipated Letting Date:

Illinois Department of Transportation

Memorandum

To: FILE

From: Kim Tressel

Subject: PESA Validation

Date: April 24, 2002

FAP Route 301 (US 20)
Section 43-1,-2,-3,-4,-5 & 177-1
JoDaviess & Stephenson County
Job No. P-92-004-92
US 20: IL 84 North of Galena to Bolton Rd. West of Freeport

A data base check was conducted on April 23, 2002 of the USEPA CERCLIS Hazardous Waste Sites and the IEPA LUST sites to re-evaluate the PESAs known as ISGS #414 and #414A. The CERCLIS data base was updated on March 9, 2002. The LUST data base was last updated April 19, 2002. No new data base changes were found.

Alternative 2 will not involve nor impact any CERCLIS sites. A petroleum site with a regulated substance will be involved but since the project will not involve the excavation of contaminated soil there is no impact.

Illinois Department of Transportation

Memorandum

To:	Roger Rocke	Attn: John H. Wegmeyer
From:	Michael L. Hine	By: Larry L. Piche
Subject:	PESA Review	
Date:	June 19, 2001	

Refer to: FAP 301 (US 20), Section 43-1, -2, -3, -4, -5 & 177-1
Job No. P-92-004-92
From IL 84 North of Galena to Bolton Rd. West of Freeport
JoDaviess and Stephenson Counties
ISGS # 414A Sequence # 60E

Attached is a copy of the Preliminary Environmental Site Assessment conducted by the Illinois State Geological Survey (ISGS) for the subject project as described in your Special Waste Survey Request.

Volatile organic testing was done for this project and the attached (ISGS) report indicates possible detection of contamination at two sites. The report has assessed a **high** risk for this project and recommends that further soil boring and sample analysis needs to be performed to determine the precise nature and extent of the contamination if excavation or additional right-of-way is required at these locations.

It is the opinion of this office, in consultation with the Chief Counsel's Office, that if right-of-way acquisition **includes a parcel with an underground storage tank(s) and Land Acquisition Procedures are followed** and if construction excavation and **utility relocation** do not exceed the maximum testing depth at each site and does not exceed

2.4 meters (8 feet) within 15 meters (50 feet) of soil boring 414A-5a and 1.2 meters (4 feet) within 15 meters (50 feet) of soil boring 414A-5b at Amoco Pipeline on US 20, approximately 1.2 km (0.75 mile) east of Woodbine;

0.6 meters (2.0 feet) within 15 meters (50 feet) of soil boring 414A-6a at Wards Grove Township Garage and Maintenance Facility, NE corner of US 20 and Tiger Whip Road,

then no additional preliminary testing for the project is necessary. *Please note that a portion of the project is located in a Karst region. Refer to Page 19 of the PESA report for a description of Karst regions.*

If the above stipulations can be met, then the project will be in compliance with Departmental Hazardous Waste Policy LEN-13. If the stipulations cannot be met, then the statewide consultant should be requested to perform additional investigations. Please notify this office of any actions you may decide to take concerning these sites (i.e., avoidance, further investigation, etc.). The attached transmittal form is provided for your convenience.

Other findings and recommendations of the report should be carefully considered. If you have any questions regarding this report or the tasking of the statewide consultant, please contact John Washburn at 217/782-7074 or Steven Gobelman at 217/785-4246.

Attachment

cc: Randy Schick
Central Bureau of Land Acquisition
District Bureau of Land Acquisition
District Utility Coordinator
Scott Stitt
Todd Hummert

PESA Response/Work Order

Attention: Central Office BD&E
Environment Section
Special Waste Unit
Room 330

Submittal Date: 02/28/1992 Sequence No: 60
District: 2 Requesting Agency: DOH Project No:
Contract #: Job No.: P- 92-004-92
Counties: JoDaviess, Stephenson
Route: FAP 301 Marked: U.S. 20
Street: Section: 43-1,-2,-3,-4,-5 & 177-1
Municipality(ies): Rural Project Length: 72.420 km 45 miles
FromTo (At): IL 84 North of Galena to Bolton Road West of Freeport
Quadrangle: Township-Range-Section:
Anticipated Design Approval: 03/01/1997 Anticipated Letting Date:

PESA Response

PESA Number: 414 Submittal Date: 04/25/2002

Action Taken by District:

- ☐ District will not need ROW from the contaminated property
- ☐ Avoid Site
- ☑ Excavation will not exceed recommended depths 04/25/2002
- ☐ Further Investigation
- ☐ Other - Use Comments Section

Comments: This PESA response is for the preferred alignment 2. A data base check was conducted on April 23, 2002 of the USEPA CERCLIS Hazardous Waste Sites and the IEPA LUST sites to re-evaluate the PESA. The CERCLIS data base was updated on March 19, 2002. The LUST data base was last updated April 19, 2002. No new data base changes were found.

Contact Person: Kim Tressel Telephone: (815) 284-5953 ext.

Work Order

Submittal Date:

Project Description:

Survey Type: ☐ Potential Waste Site(s) ☐ UST-LUST ☐ Miscellaneous and Testing

Reason Why Site(s) Cannot Be Avoided:

Property to be surveyed is owned by IDOT:

Property Owner/Tenants has been notified of future survey by certified letter:

PESA Response/Work Order

Attention: Central Office BD&E
Environment Section
Special Waste Unit
Room 330

Submittal Date: 07/17/2000 Sequence No: 60 E
District: 2 Requesting Agency: DOH Project No:
Contract #: Job No.: P- 92-004-92
Counties: JoDaviess, Stephenson
Route: FAP 301 Marked: U.S. 20
Street: U.S. 20 four lane study Section: 43-1,-2,-3,-4,-5 & 177-1,-2,-3
Municipality(ies): Rural Project Length: 4.0234 km 2.5 miles
FromTo (At): IL 84 to Bolton Road (Original Expressway)
Quadrangle: Township-Range-Section:
Anticipated Design Approval: Anticipated Letting Date:

PESA Response PESA Number: 414A Submittal Date: 04/25/2002

Action Taken by District:
- ☐ District will not need ROW from the contaminated property
- ☑ Avoid Site 04/25/2002
- ☐ Excavation will not exceed recommended depths
- ☐ Further Investigation
- ☐ Other - Use Comments Section

Comments: This PESA Response is for the perferred alignment 2. A data base check was conducted on April 23, 2002 of the USEPA CERCLIS Hazardous Waste Sites and the IEPA LUST sites to re-evaluate the PESA. The CERCLIS data base was updated on March 19, 2002. The LUST data base was last updated April 19, 2002. No new data base changes were found.

Contact Person: Kim Tressel Telephone: (815) 284-5953 ext.

Work Order Submittal Date:

Project Description: Variant on Irish Hollow Allgnment

Survey Type: ☐ Potential Waste Site(s) ☐ UST-LUST ☐ Miscellaneous and Testing

Reason Why Site(s) Cannot Be Avoided:

Property to be surveyed is owned by IDOT:

Property Owner/Tenants has been notified of future survey by certified letter:

Illinois Department of Transportation

Memorandum

To:	Roger Rocke	Attn.: John Wegmeyer
From:	Michael L. Hine	By: Larry L. Piche
Subject:	PESA Review	
Date:	November 8, 2001	*Larry L. Piche*

Refer to: US 20 (FAP 301), Section 43-1,-2,-3,-4,-5 and 177-1
Job No. P-92-004-92
Proposed alignments AB, BC, BD, BF, CD, CI, DE, EF (N), EF(S), FG, GH(N), GH(S), HJ, IJ, IK, and JK)
Alternate Routes for 45 Miles of US 20
Jo Daviess and Stephenson Counties
ISGS # 414A Seq. # 60E

Attached is a copy of a letter report from the Illinois State Geological Survey (ISGS) in response to your request to conduct additional database searches on public and private wells which would be affected by various alignments of the US 20 relocation alternatives.

If you have any questions, please advise.

Attachment

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ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

ILLINOIS STATE GEOLOGICAL SURVEY

Natural Resources Building
615 East Peabody Drive
Champaign, IL 61820-6964
217/333-4747
FAX 217/244-7004

November 6, 2001

Mr. John R. Washburn
Bureau of Design and Environment
Illinois Department of Transportation
2300 South Dirksen Parkway
Springfield, IL 62764

Dear Mr. Washburn,

The information in this letter pertains to the following project:

ISGS Project: 414A
IDOT#: P92-004-92
County: Jo Davies County and Stephenson County
Location: FAP 301 (US 20), Section 43-1, -2, -3, -4, -5 and 177-1 (proposed alignments AB, BC, BD, BF, CD, CI, DE, EF(N), EF(S), FG, GH(N), GH(S), HJ, IJ, IK, and JK). Forty-five miles of US 20 that has several alternative proposed new routes.

This letter is in response to IDOT's request, dated August 6, 2001 and received by ISGS on August 27, 2001, to conduct additional database searches on public and private wells which would be affected by the various alignments of the US 20 relocation alternatives. ISGS PESA 414A was submitted on June 15, 2001.

Potential for contamination of shallow aquifers. The project area is located in Zones A1, AX, C1, C5, and D, according to the map "Potential for contamination of shallow aquifers from land burial of municipal wastes" (Berg et al., 1984). Zone A1 is described as permeable bedrock at or within 6.1 m (20 ft) of the land surface, with variable overlying materials. Zone AX is described as alluvium (a mixture of gravel, sand, silt, and clay along streams), variable in composition and thickness. Zone C1 is described as permeable bedrock within 6.1 to 15.2 m (20 to 50 ft) of the surface, overlain by till or other fine-grained material. Zone C5 is described as fine-grained materials with discontinuous sand and gravel locally present within 15.2 m (50 ft) of the land surface. Zone D is described as uniform, relatively impermeable sandy till at least 15.2 m (50 ft) thick, with no evidence of interbedded sand and gravel. This information is provided for a general regional perspective only, as the map was prepared at a scale of 1:500,000 and is not applicable on a site-specific basis. No borings were made to a depth of 15.2 m (50 ft) to verify the geology of this site.

Well information. ISGS well records indicate that water in the project area is obtained from limestone at depths ranging from 21 to 162 m (70 to 530 ft) below the surface. The static water levels in these wells when drilled ranged from about 0.6 to 107 m (2 to 350 ft) below the surface. Other wells not in the ISGS database may be present near the project area.

The location reported on the ISGS well records was compared to the various alternative alignments to identify the wells located within 305 m (1,000 ft) feet of the potential routes. The locations of these water wells are in the Table 1. While both public and private water wells were screened, only private water wells were found to be within 305 m (1,000 ft) of the project alignments. The distances in Table 1 were measured to the centerline of the route alignments

The location information on the well logs is reported to the ISGS to the nearest quarter-quarter-quarter section and is therefore accurate anywhere within a 4-hectare (10-acre) area, this location information has not been specifically verified by the ISGS. Additionally, there may be other wells near the project area not present in the ISGS database.

If you need further information concerning this project, please contact me at the telephone number below.

Sincerely,

Dale Schmidt
ISGS Environmental Geologist
(312) 793-7382
fax (312) 793-5968
email schmidt@isgs.uiuc.edu

Approved: Gregory A. Kientop Date: 11/06/01
Greg A. Kientop
Acting Head-Environmental Site Assessments Section

Table 1: ISGS Well Records of Water Wells located within 305 m (1,000 ft) of PESA 414A

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
Jo Davies County			
Segment AB			
12-085-21979	T28N R1W S2	290 m (950 ft) south of	Station 547 on Segment AB
12-085-20813	T28N R1E S4	251 m (825 ft) south of	Station 630 on Segment AB
12-085-20815	T28N R1E S9	30 m (100 ft) west of	Station 673 on Segment AB
12-085-22592	T28N R1E S9	168 m (550 ft) northeast of	Station 681 on Segment AB
12-085-21290	T28N R1E S16	290 m (950 ft) southwest of	Station 720 on Segment AB
12-085-21615	T28N R1E S27	107 m (350 ft) east of	Station 847 on Segment AB
12-085-21204	T28N R1E S27	55 m (180 ft) northeast of	Station 899 on Segment AB
12-085-21285	T28N R1E S35	274 m (900 ft) northeast of	Station 924 on Segment AB
12-085-21206	T28N R1E S35	206 m (675 ft) northeast of	Station 949 on Segment AB
Segment BC			
12-085-20950	T27N R2E S6	30 m (100 ft) north of	Station 70 on Segment BC
12-085-21679	T27N R2E S5	305 m (1,000 ft) south of	Station 112 on Segment BC
12-085-21810, -22514	T27N R2E S16	152 m (500 ft) west of	Station 212 on Segment BC
12-085-22436	T27N R2E S16	at	Station 214 on Segment BC
12-085-21894	T27N R2E S16	213 m (700 ft) SW of	Station 218 on Segment BC
12-085-00199	T27N R2E S16	229 m (750 ft) west of	Station 231 on Segment BC
12-085-00202	T27N R2E S22	213 m (700 ft) north of	Station 1288 on Segment BC
12-085-21248	T27N R2E S22	152 m (500 ft) northeast of	Station 1298 on Segment BC
12-085-21884	T27N R2E S22	at	Station 1318 on Segment BC
Segment BD			
12-085-00653	T27N R2E S6	69 m (225 ft) west of	Station 3061 on Segment BD

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
12-085-00194	T27N R2E S7	305 m (1,000 ft) east of	Station 3133 on Segment BD
12-085-20951	T27N R2E S7	221 m (725 ft) north of	Station 6155 on Segment BD
12-085-21100	T27N R2E S27	137 m (450 ft) south of	Station 6383 on Segment BD
Segment BF			
12-085-20950	T27N R2E S6	137 m (450 ft) north of	Station 1065 on Segment BF
12-085-22435	T27N R2E S14	152 m (500 ft) north of	Station 1308 on Segment BF
12-085-21960	T27N R2E S14	53 m (175 ft) north of	Station 1315 on Segment BF
12-085-00197	T27N R2E S14	274 m (900 ft) south of	Station 1331 on Segment BF
12-085-21349	T27N R2E S14	305 m (1,000 ft) south of	Station 1339 on Segment BF
12-085-21478	T27N R3E S17	107 m (350 ft) north of	Station 1484 on Segment BF
12-085-21794	T27N R3E S10	30 m (100 ft) north of	Station 1633 on Segment BF
Segment CI			
12-085-00218	T27N R3E S15	259 m (850 ft) north of	Station 896 on Segment CI
12-085-22445	T27N R3E S14	152 m (500 ft) northwest of	Station 922 on Segment CI
12-085-21562	T27N R3E S14	137 m (450 ft) northwest of	Station 927 on Segment CI
12-085-20748	T27N R3E S11	107 m (350 ft) southeast of	Station 967 on Segment CI
12-085-21320	T27N R3E S12	15 m (50 ft) north of	Station 984 on Segment CI
12-085-21589	T27N R3E S12	137 m (450 ft) north of	Station 989 on Segment CI
12-085-20960	T27N R3E S12	213 m (700 ft) north of	Station 991 on Segment CI
12-085-21171, -20959, -20961, -20963, -21102	T27N R3E S12	244 m (800 ft) north of	Station 993 on Segment CI
12-085-22485, -20962	T27N R3E S12	152 m (500 ft) north of	Station 996 on Segment CI
12-085-20838	T27N R3E S12	69 m (225 ft) north of	Station 998 on Segment CI
12-085-21249, -22457, -21141			

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
	T27N R4E S7	107 m (350 ft) southeast of	Station 1038 on Segment CI
12-085-21110	T27N R4E S7	137 m (450 ft) southeast of	Station 1040 on Segment CI
12-085-20840	T27N R4E S6	183 m (600 ft) north of	Station 1080 on Segment CI
12-085-20752	T27N R4E S5	183 m (600 ft) north of	Station 1112 on Segment CI
12-085-21364	T27N R4E S8	76 m (250 ft) south of	Station 1117 on Segment CI
12-085-22446	T27N R4E S5	46 m (150 ft) north of	Station 1148 on Segment CI
12-085-00238	T27N R4E S9	198 m (650 ft) south of	Station 1157 on Segment CI
12-085-21413	T27N R4E S9	61 m (200 ft) south of	Station 1172 on Segment CI
12-085-00603	T27N R4E S10	305 m (1,000 ft) south of	Station 1250 on Segment CI
12-085-21192	T27N R4E S10	259 m (850 ft) south of	Station 1251 on Segment CI
12-085-20992	T27N R4E S3	274 m (900 ft) north of	Station 1255 on Segment CI
12-085-21310	T27N R4E S1	305 m (1,000 ft) north of	Station 1313 on Segment CI
12-085-21973	T27N R2E S26	244 m (800 ft) south of	Station 1412 on Segment CI
12-085-20788	T27N R2E S26	229 m (750 ft) north of	Station 1432 on Segment CI
12-085-00272	T27N R5E S5	290 m (950 ft) north of	Station 1435 on Segment CI
12-085-21800	T27N R2E S25	38 m (125 ft) south of	Station 1461 on Segment CI
12-085-21624	T27N R2E S25	259 m (850 ft) north of	Station 1462 on Segment CI
12-085-21674, -22054	T27N R2E S25	305 m (1,000 ft) north of	Station 1472 on Segment CI
12-085-00221	T27N R3E S19	152 m (500 ft) northwest of	Station 1500 on Segment CI
12-085-21198	T27N R5E S9	53 m (175 ft) south of	Station 1507 on Segment CI
12-085-21480	T27N R3E S19	107 m (350 ft) north of	Station 1519 on Segment CI
12-085-21305	T27N R3E S20	122 m (400 ft) south of	Station 1575 on Segment CI
12-085-22428, -22555, -22275	T27N R3E S21	46 m (150 ft) east of	Station 1629 on Segment CI
12-085-20979, -20982, -21681, -22362			

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
	T27N R3E S21	213 m (700 ft) southeast of	Station 1630 on Segment CI
12-085-22500	T27N R3E S21	122 m (400 ft) east of	Station 1637 on Segment CI
12-085-21712, -22583	T27N R3E S21	183 m (600 ft) southeast of	Station 1643 on Segment CI
Segment DE			
12-085-20788	T27N R2E S26	152 m (500 ft) south of	Station 6475 on Segment DE
12-085-00211	T27N R2E S25	236 m (775 ft) south of	Station 6504 on Segment DE
12-085-21800	T27N R2E S25	183 m (600 ft) north of	Station 6506 on Segment DE
12-085-21911	T27N R2E S25	at	Station 6508 on Segment DE
Segment EF-N			
12-085-21794	T27N R3E S10	30 m (100 ft) north of	Station 1633 on Segment EF-N
12-085-20989	T27N R3E S29	91 m (300 ft) southeast of	Station 8049 on Segment EF-N
12-085-00494	T27N R3E S29	274 m (900 ft) northwest of	Station 8052 on Segment EF-N
12-085-21180	T27N R3E S29	at	Station 8057 on Segment EF-N
12-085-00227	T27N R3E S29	259 m (850 ft) northwest of	Station 8059 on Segment EF-N
12-085-21305	T27N R3E S20	229 m (750 ft) northeast of	Station 8070 on Segment EF-N
12-085-22428, -22555, -22275	T27N R3E S21	213 m (700 ft) east of	Station 8118 on Segment EF-N
12-085-22500	T27N R3E S21	244 m (800 ft) east of	Station 8124 on Segment EF-N
12-085-22500	T27N R3E S21	244 m (800 ft) east of	Station 8124 on Segment EF-N
12-085-20979, -20982, -21681, -22362	T27N R3E S21	305 m (1,000 ft) east of	Station 8124 on Segment EF-N
Segment EF-S			
12-085-21794	T27N R3E S10	46 m (150 ft) north of	Station 1633 on Segment EF-S
12-085-20965, -20972, -20981	T27N R3E S21	175 m (575 ft) northwest of	Station 2713 on Segment EF-S

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
12-085-20988	T27N R3E S29	152 m (500 ft) north of	Station 6606 on Segment EF-S
12-085-20990	T27N R3E S29	183 m (600 ft) north of	Station 6607 on Segment EF-S
12-085-00580	T27N R3E S29	107 m (350 ft) north of	Station 6612 on Segment EF-S
12-085-21627	T27N R3E S29	107 m (350 ft) south of	Station 6615 on Segment EF-S
12-085-00222	T27N R3E S21	259 m (850 ft) east of	Station 6683 on Segment EF-S
12-085-21944	T27N R3E S21	213 m (700 ft) west of	Station 6696 on Segment EF-S
12-085-20975	T27N R3E S21	15 m (50 ft) west of	Station 6702 on Segment EF-S
12-085-21179, -21144, -21175, -21177, -21178	T27N R3E S21	137 m (450 ft) east of	Station 6702 on Segment EF-S
12-085-21176	T27N R3E S21	61 m (200 ft) west of	Station 6709 on Segment EF-S
12-085-20967, -20968, -20983, -20984	T27N R3E S21	76 m (250 ft) west of	Station 6713 on Segment EF-S
12-085-20974, -20971, -20970	T27N R3E S21	at	Station 6717 on Segment EF-S
12-085-20966, -20985	T27N R3E S21	305 m (1,000 ft) west of	Station 6721 on Segment EF-S
12-085-22403, -22456	T27N R3E S21	274 m (900 ft) west of	Station 6724 on Segment EF-S
12-085-21172	T27N R3E S21	91 m (300 ft) west of	Station 6725 on Segment EF-S
Segment GH-N			
12-085-21563	T27N R4E S4	305 m (1,000 ft) south of	Station 3845 on Segment GH-N
12-085-21182	T27N R4E S2	183 m (600 ft) south of	Station 3975 on Segment GH-N
12-085-00272	T27N R5E S5	152 m (500 ft) north of	Station 4110 on Segment GH-N
Segment GH-S			
12-085-00230	T27N R4E S1	30 m (100 ft) south of 229 m (750 ft) south of	IL 78 spur on Segment GH-S Station 4013 on Segment GH-S
12-085-21182	T27N R4E S2	at	Station 44 on Segment GH-S

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
Stephenson County			
Segment CI			
12-177-21794, -21793	T27N R5E S10	61 m (200 ft) south of	Station 1545 on Segment CI
12-177-21253	T27N R5E S3	213 m (700 ft) east of	Station 1551 on Segment CI
12-177-22213	T27N R5E S3	107 m (350 ft) north of	Station 1605 on Segment CI
12-177-00236	T27N R5E S1	305 m (1,000 ft) north of	Station 1641 on Segment CI
12-177-21874	T27N R6E S7	305 m (1,000 ft) south of	Station 1698 on Segment CI
12-177-21875	T27N R6E S8	61 m (200 ft) south of	Station 1783 on Segment CI
12-177-21385	T27N R6E S8	244 m (800 ft) south of	Station 1785 on Segment CI
Segment HJ			
12-177-21870	T27N R5E S3	183 m (600 ft) southeast of	Station 4555 on Segment HJ
12-177-00262	T27N R6E S5	at	Station 4776 on Segment HJ
12-177-22068	T27N R6E S5	274 m (900 ft) south of	Station 4783 on Segment HJ
12-177-00260	T27N R6E S2	213 m (700 ft) northeast of	Station 4927 on Segment HJ
Segment IJ			
12-177-20973	T27N R6E S3	122 m (400 ft) north of	Station 1860 on Segment IJ
12-177-21489	T27N R6E S4	99 m (325 ft) north of	Station 1835 on Segment IJ
Segment IK			
12-177-20973	T27N R6E S3	183 m (600 ft) north of	Station 1860 on Segment IK
12-177-20922	T27N R6E S10	107 m (350 ft) southwest of	Station 1896 on Segment IK
12-177-00265	T27N R6E S11	15 m (50 ft) north of	Station 1919 on Segment IK
12-177-00266	T27N R6E S11	15 m (50 ft) north of	Station 1930 on Segment IK
12-177-22498	T27N R6E S14	76 m (250 ft) northeast of	Station 1942 on Segment IK

ISGS Well #	Township, Range, and Section	Distance and Direction to	Station and Segment
12-177-21132	T27N R6E S14	183 m (600 ft) northeast of	Station 1953 on Segment IK
12-177-21810	T27N R6E S14	183 m (600 ft) northeast of	Station 1958 on Segment IK
12-177-22336	T27N R6E S14	168 m (550 ft) northeast of	Station 1969 on Segment IK
12-177-21506	T27N R6E S13	213 m (700 ft) northeast of	Station 1987 on Segment IK
12-177-21809	T27N R6E S13	152 m (500 ft) northeast of	Station 1988 on Segment IK
12-177-21130	T27N R6E S13	61 m (200 ft) northeast of	Station 1992 on Segment IK
12-177-22556	T27N R6E S13	213 m (700 ft) northeast of	Station 1999 on Segment IK
12-177-21397	T27N R6E S13	15 m (50 ft) northeast of	Station 2002 on Segment IK
12-177-00269	T27N R6E S13	183 m (600 ft) north of	Station 2015 on Segment IK
12-177-21815	T27N R6E S24	183 m (600 ft) south of	Station 2042 on Segment IK
12-177-20873	T27N R7E S19	198 m (650 ft) north of	Station 2050 on Segment IK
12-177-22583	T27N R7E S19	61 m (200 ft) south of	Station 2055 on Segment IK
12-177-22017	T27N R7E S19	91 m (300 ft) north of	Station 2071 on Segment IK
12-177-22178	T27N R7E S19	15 m (50 ft) north of	Station 2077 on Segment IK
12-177-21507	T27N R7E S19	152 m (500 ft) west of	Station 2094 on Segment IK
12-177-00850	T27N R7E S20	274 m (900 ft) south of	Station 2110 on Segment IK
12-177-21886	T27N R7E S17	46 m (150 ft) south of	Station 5143 on Segment IK
Segment JK			
12-177-21128	T27N R6E S11	305 m (1,000 ft) northeast of	Station 4952 on Segment JK
12-177-21886	T27N R7E S17	61 m (200 ft) south of	Station 5135 on Segment JK